

REMARKS/ARGUMENTS

Claims 1, 2, 5-14, 16, 17, 19, 21, 22, 25-36, 39, and 42-61 are currently pending in this application. No claims have been amended. New claims 43-61 are added.

Claim Rejections - 35 USC § 103

Claims 1, 2, 8-14, 16, and 17 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 6,686,457 to Sarkar et al. (hereinafter Sarker) in view of U.S. Patent No. 6,256,500 to Yamashita (hereinafter Yamashita).

Claims 1, 2, 8-14, 16, 17, 19, 21, 22, 28-36, 39 and 42 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 6,618,596 to Uchida (hereinafter Uchida) in view of Yamashita.

Claims 5-7 stand rejected under 35 USC § 103(a) as being unpatentable over Sarker in view of Yamashita and further in view of U.S. Patent Application Publication No. 2001/0041584 to Watanabe (hereinafter Watanabe).

Claims 5-7 and 27 rejected under 35 USC § 103(a) as being unpatentable over Uchida in view of Yamashita and further in view of Watanabe.

The Applicant respectfully traverses all of these rejections for at least the following reasons. The Examiner admits that the following element of claim 1 is not disclosed by Sarker and not disclosed by Uchida:

instantaneously detecting motion of a communication device communicating the wireless signal or instantaneously detecting motion of an external object in a signal path based on a measurement of a metric of a modulated signal attribute comprised of at least one of amplitude of the wireless signal, frequency of the wireless signal, or phase of the wireless signal.

(Emphasis added). See Office Action, page 3, third paragraph, and page 5, third paragraph. With respect to both Sarker and Uchida, the Examiner relies on Yamashita for disclosing this element.

The Applicant respectfully submits that Yamashita does not teach this element for at least the following reasons. Yamashita determines velocity, but does not detect motion “based on a measurement of a metric of a modulated signal attribute comprised of at least one of amplitude of the wireless signal, frequency of the wireless signal, or phase of the wireless signal”. Yamashita determines velocity from a “fading rate” which is measurable only when multipath interference is occurring. See Yamashita in at least the following places: col. 5, line 51 – col. 6, line 22. In particular, col. 6, lines 4-13 state: “In a multipath transmission environment, when a mobile station on a car, a bus, or a bicycle passes through an area of standing waves of broadcast radio waves, the fading rate is a frequency fluctuation of an electric intensity, that is, when the standing waves occur a period of $1/2\lambda$ wavelength distance determined by frequency bands of the mobile radio communications system, while the mobile station moves at constant speed in the

multipath transmission environment, the fluctuation of the electric intensity of the mobile can be measured by a constant frequency." (Emphasis added.) In other words, the method of Yamashita will work only when a receiver is receiving the same radio signal along at least two different paths.

Likewise, Yamashita's method using crossing rate will only work in the presence of multipath interference. See, e.g., Yamashita col. 6, lines 14 – 23.

By contrast, it is known to a person of ordinary skill in the art that the method of claim 1 has no such constraint – the method of claim 1 may be used to determine relative motion between a transmitter, a receiver, and/or an object between a transmitter and receiver, even in the absence of "fading" as that term is defined by Yamashita.

For all the preceding reasons, the Applicant respectfully submits that neither Sarker nor Yamashita, separately nor combined, teaches the above element of claim 1, and claim 1 is therefore patentable over Sarker in view of Yamashita.

Claims 2, 8-14, 16, and 17 are dependent on claim 1 and are therefore also patentable over Sarker in view of Yamashita. Furthermore, regarding claims 8-13, 16, and 17, the Applicant disagrees with the Examiner's assertion "MPEP 2111.04 discloses claim scope is not limited by steps [sic] that suggests or makes optional but does not require steps to be performed." In making this statement, the Examiner completely glosses over, and fails to address, the specifics of claims 8-13,

16, and 17, such as the use of a statistical quantity such as variance. Each and every one of claims 8-13, 16, and 17 recites a proper limitation of the detecting step recited in claim 1. To cite specific examples, a person of ordinary skill in the art will recognize that the use of a statistic in claim 9 makes the scope of claim 9 narrower than that of claim 1 and requires at least one additional calculation step. Claim 10 further specifies that the statistic is variance, another properly dependent claim. The Examiner conveniently ignores the statement in this same MPEP section 2111.04 that states “The determination of whether [a “wherein” clause] is a limitation in a claim depends on the specific facts of the case.” (Emphasis added). Since each of these dependent claims refers directly to a step in claim 1, and further limits the step, there can be no inference that these claims render the step as optional.

Claims 8-13, 16, and 17 are proper dependent claims, and MPEP section 2111.04 has been misapplied in the Office Action.

Claim 1 also stands rejected over Uchida in view of Yamashita. As with Sarker, the Examiner admits that the above quoted element of claim 1 is not disclosed by Uchida and relies on Yamashita for disclosing this element. As argued above, however, Yamashita does not disclose this element. Therefore, claim 1 is patentable over Uchida in view of Yamashita. Independent claims 21 and 42 both

recite a corresponding element and are therefore also patentable over Uchida in view of Yamashita by corresponding reasoning.

Claims 2, 8-14 and 16, 17, and 19 are dependent on claim 1. Claims 22, 28-36 and 39 are dependent on claim 21. All of these dependent claims are therefore patentable over Uchida in view of Yamashita. Furthermore, for the same reasons presented above, the rejections of claims 28-33 based on MPEP 2111.04 are improper.

Claims 5-7 are dependent on claim 1 and, based on the arguments above, are therefore patentable over both Sarker in view of Yamashita and Uchida in view of Yamashita. In both cases, Watanabe does not remedy the deficiencies of the cited references. Watanabe discloses a radio receiver and a method of amplifying various types of signals in the receiver to reduce power consumption. Watanabe is silent concerning the above discussed elements of claims 1, 21, and 42. Indeed, the Examiner relies on Watanabe only to teach an Automatic Gain Control loop.

Based on the arguments presented above, withdrawal of all rejections of all pending claims is respectfully requested.

Examination of new claims 43-61 is respectfully requested.

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Conclusion

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephonic interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing remarks, the Applicant respectfully submits that the present application is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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